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# Learning from tacit knowledge: the impact of the internship

Learning from  
tacit knowledge

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153

## Abstract

**Purpose** – The purpose of this study is to investigate the impact of an internship on its participants in an educational administration program.

**Design/methodology/approach** – The study analyzed the interns' reports or reflections on their internship experience to decipher what was learned by the participants based on Nonoka and Takeuchi's knowledge creation model (tacit to explicit knowledge).

**Findings** – The study found that tacit knowledge was both contextual and released spontaneously to capture the nuances of the task/issue/problem at hand. It was contextual because the situation provided meaning and connectedness. The tacit knowledge was externalized in the process of solving a particular problem or in response to a particular issue. It was spontaneous because the actions or conversations were not predetermined, or structured; they were provoked or emerged through deductions and inductions as interns and principals worked together to find solutions.

**Research limitations** – The findings of this research should be interpreted with the understanding that not all tacit knowledge is useful. This study focused on the positives. Certainly, some interns had experiences in which the tacit knowledge was not worth emulating. Hopefully, the interns have the capacity to decipher and choose what is best for their own leadership skills.

**Practical implications** – This study suggested that interns should expand their own awareness of learning opportunities posed by life experiences and gain insight into leadership.

**Originality/value** – This study concluded that opportunities provided for interaction and sharing during internship are the points where knowledge is created to prepare interns for leadership positions.

**Keywords** Leadership, Tacit knowledge, Educational administration

**Paper type** Research paper

## Background

Leadership is typically learned through studying the key concepts and skills used by effective leaders, observing good models, and by trial and error in the work place (Morrison, 2005; Fry *et al.*, 2005). How can learning through observation or trial and error be quantified in this era of standards and accountability? The purpose of this study was to investigate the impact of an internship experience in an educational administration program. Significant challenges facing universities today include preparing school leaders who effect achievement for all children irrespective of background. Many prospective school leaders do not experience the leadership challenges that characterize many schools until they are involved in leadership positions. For these prospective leaders, the internship can provide not only a meaningful context, but also activities that are interactive and call upon real world knowledge, skills, and experiences. These skills and experiences have been referred to as tacit knowledge (Nonoka and Takeuchi, 1995). The acquisition of tacit knowledge during an internship was the focus of this study.



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Knowledge has become the resource rather than a resource of power and key to change (Drucker, 1991; Toffler, 1990). Drucker and Toffler share the view that successful organizations increasingly rely on the intellectual and service capabilities rather than physical assets. According to Gertler (2003), the production, acquisition, absorption, reproduction, and dissemination of knowledge are the fundamental characteristics of contemporary competitive dynamics. Nonoka and Takeuchi (1995, p. 3) claim that Japanese organizations have been successful and innovative because of their skills and expertise at “organizational knowledge creation”. They describe organizational knowledge creation as the capability to create new knowledge, disseminate it through the organization, and embody it in products, services and systems. They also distinguish between explicit and tacit knowledge. Explicit knowledge refers to knowledge that is transmittable in formal, systematic language, while tacit knowledge is highly personal, context-specific, and therefore, hard to formalize or communicate (Nonoka and Takeuchi, 1995). Tacit knowledge is not easily visible or expressible. It is deeply-rooted in an individual’s action, experience, ideals, and values. Lunenburg and Ornstein (2004) in explaining tacit knowledge from a teaching perspective found that an alternative model for understanding the nature of teaching relied on language and dialogue. This model emphasized the use of metaphors, stories, biographies and autobiographies, conversations (with experts), and voices (or narratives). Tacit knowledge in this context focused on the personal and craft knowledge of practicing teachers, the culture of teaching, and the language, and thoughts of the teachers.

It is a challenge for school leadership preparation institutions to develop quality programs that reflect knowledge changes – demographic, social, and technological – taking place in schools and communities. Although the challenges present such programs with opportunities to develop innovative programs, the balance between explicit and tacit knowledge is yet to be firmly established. Many graduates of educational administration programs have reported that internship is the most valued experience in the educational administration preparation process (Fry *et al.*, 2005; Hess and Kelly, 2005; Milstein and Kruger, 1997). At the same time, they say that the internship experience needs to be expanded and improved (Fry *et al.*, 2005; Morrison, 2005). Morrison even suggests that administrative programs provide students more leadership experiences. Interns must be welcomed into the “trenches”, given problems to resolve, and allowed to truly experience what administrators do on a daily basis.

The university in this study provided explicit knowledge during coursework and depended on schools and experienced school leaders to provide tacit knowledge. Beyond the explicit knowledge, the interns have an opportunity to learn from the schools’ contextual or tacit knowledge. The question that guided the study was, how did the internship process elicit new learning from tacit knowledge?

### **Conceptual framework – tacit knowledge**

Most efforts to reform the preparation of school leaders have included the element of internship. The internship experience is based on the belief that immersion in an authentic setting is essential to being well-prepared (US Department of Education, 2004; Wilmore, 2002). Personal experiences have been found to provide opportunities to learn what is not readily available in the classroom. Such knowledge includes contextualized understanding of concepts, awareness of biases and experiential gaps,

increased critical reflection, and an orientation toward action for greater educational achievement (Edmonson, 2002; Schoorman, 2002). This knowledge may be based on subjective insights, intuitions and “hunches” of experienced personnel (Nonoka and Takeuchi, 1995). To maximize the potential of tacit knowledge, Hansen and Matthews (2002) found that the internship process requires the replacement of traditional power roles with collegial-peer relationships that rely on “conditions of trust, openness, risk-taking, problem identification, problem-solving, and goal setting” (Hansen and Matthews, 2002, p. 31).

According to Nonoka and Takeuchi (1995, p. 8), tacit knowledge can be segmented into two dimensions:

- (1) The technical dimension, which encompasses informal and “hard-to-pin-down” skills or crafts captured in the term “know how”.
- (2) The cognitive dimension, which consists of schemata, mental models, beliefs and perceptions so engrained that they are taken for granted.

The cognitive dimension reflects the image of reality (what is) and vision for the future (what ought to be) and shapes the way people perceive the world around them. Master administrators, for example, often develop such a wealth of expertise that they are often unable to articulate it in scientific or technical terms. This expertise includes highly subjective insights, intuitions, hunches, ideals, values, and emotions as well as images and symbols. This expertise can be learned by prospective administrators through close interaction, observation, and participation. This process is facilitated by the presence of background knowledge, such as experiences in school settings and college courses. Hirsch (1997, p. 23) puts it this way: “Their rich, highly accessible background knowledge gives them a greater variety of means for capturing new ideas”. Educational administration courses provide knowledge and language that enables the interns to have common ground with the administrators. It is generally held that tacit knowledge can only be shared effectively between two or more people when they also share a common social context: shared values, language, and culture (Gertler, 2003). The academic coursework also creates awareness of experiential gaps, questions, and therefore, a natural eagerness to learn.

How is tacit knowledge transmitted? By its nature, tacit knowledge implies communication difficulties and the inadequacies of language in expressing certain forms of knowledge and explanation, even when one has achieved full awareness.

This is the idea that symbolic forms of communication such as spoken or written words cannot convey all of the knowledge necessary for successful execution (Gertler, 2003, p. 77).

Some possible reasons may be that the performer is not aware of the “secrets” of successful performance or that behavior defies linguistic definition. Nonoka and Takeuchi (1995) explain that tacit knowledge can be converted to explicit knowledge through externalization. Externalization is typically seen in the process of concept creation triggered by dialogue or collective reflection. They explain that externalization may happen in three ways:

- (1) metaphor and analogy (figurative language and symbolism);
- (2) shared individual personal knowledge; and
- (3) ambiguity and redundancy.

Metaphors are ways of perceiving or intuitively understanding one thing by imagining another thing; thus, symbolically allowing the learner to see one thing in terms of something else (Nonoka and Takeuchi, 1995, p. 66). Metaphors are important tools for defining new concepts. Analogies, on the other hand, are the associations carried out by rational thinking focusing on structural/functional similarities between two things and, hence, their differences. Analogies help us understand the unknown through the known, and they bridge the gap between an image and a logical model. According to Lunenburg and Ornstein (2004), the thinking of master education leaders consists of personal experiences, images, and jargon, making figurative language central to the expression and understanding of the school principals' knowledge of leadership. This process of understanding evolves through experience and study.

Personal knowledge is often where new knowledge begins (Nonoka and Takeuchi, 1995). Tacit knowledge is largely embodied, and therefore, well-educated or talented workers (intellectual capital) are essential to the production and dissemination of tacit knowledge. However, tacit knowledge arises from social interactions and collaboration of individuals within a shared social, organizational, and cultural context. Personal knowledge may come in the form of insight leading to new outcomes or process. Therefore, tacit knowledge depends on the interaction and social relations in the organization. Organizations cannot create knowledge without the initiative of the individual and the interaction that takes place within the group (Nonoka and Takeuchi, 1995). This interaction can involve considerable conflict and disagreement, but it is the conflicts that may cause people to question existing assumptions and help them make sense of experiences in a new way.

Redundancy and ambiguity are discussed by Nonoka and Takeuchi as catalysts for knowledge creation. While ambiguity may prove useful as a source for direction, alternate meaning, and a fresh way of thinking, redundancy encourages frequent dialogue and communication of overlapping information. Learning requires tolerance for ambiguity or uncertainty and a willingness to live in dissonance long enough to investigate and explore ideas until there is some clarity. Overlapping information helps create common cognitive ground among members and, thus, facilitates the transfer of tacit knowledge. One example of the benefits of redundancy is that different groups working on the same problem may develop different approaches. Different approaches are valuable because of the creation of more perspectives to the solution or outcome.

This study was based on the premise that interns working closely with a mentor (an experienced principal) could access tacit knowledge within the organization through observation, participation, and leading. Haberman (1992) reported that the portrait of a "star" teacher revealed a host of behaviors and attitudes (tacit knowledge) that dismissed what many educators say makes a master or effective teacher (explicit knowledge). These teachers did not use theory, overt learning principles, or research on effectiveness; instead, they had internalized their own views of teaching, the organization of subject matter, and practices through experience and self-discovery. Their behaviors and methods were not forms of knowledge learned from the university; most of the things they considered important, they learned on the job. This study, by analogy, extends the concept of a "star" teacher to a "star" principal.

**Method**

A total of 20 students involved in an internship experience participated in the study over the course of two semesters. The first step of the internship program required the 20 interns to document background information about their schools. The background information included demographics, academic achievement status, per pupil spending, community, and other information that would help them identify areas of strengths, needs, and opportunities in the school. Participants were paired with a mentor principal or professional expert holding the state administrative certificate. The mentors were provided guidelines for mentoring. Based on background information gathered, discussions with the mentor, and the Interstate School Leader Licensure Consortium (ISLLC) standards, the interns proposed projects to be implemented. All projects required:

- a planning component, in which the interns identified specific outcomes for the experience and developed a plan of action; and
- a reflection component, in which the interns summarized the experience, reflected on it, constructed their own meaning through self-regulated process, and identified implications for leadership development.

Support was also provided by the university professor who visited the interns three times each semester. The purposes of the visits were to help structure intern/mentor relationships, as well as to assist interns in integrating theory from course work into the leadership challenges.

The interns were also required to “shadow” a principal at a different school setting for at least a day during the period of internship. Such multiple settings introduced the interns to a range of opportunities and ideas outside their normal operations. Once each semester, the interns met to collaborate. The colloquia provided an opportunity for the interns to share their varied experiences, ideas, challenges, successes, and research. The internship experience culminated in a portfolio that included personal reflections and artifacts collected over the internship period. The portfolio was analyzed to identify knowledge created by interns during this period, which may be described as tacit knowledge from the mentor and the school experiences (metaphor and analogy, shared individual personal knowledge, and ambiguity and redundancy). The findings of this study were based on the analysis of the interns’ reflections during their internship experience.

**Findings and discussions**

The purpose of this study was to explore the process of making tacit knowledge explicit during internship in an education administration program. The study focused on the use of metaphors, shared personal knowledge, and redundancy and ambiguity (Nonaka and Takeuchi, 1995). The study found that tacit knowledge was both contextual and released spontaneously to capture the nuances of the task/issue/problem at hand. It was contextual because the situation provided meaning and connectedness. The tacit knowledge was externalized in the process of solving a particular problem or in response to a particular issue. It was spontaneous because the actions or conversations were not predetermined, or structured; they were provoked or emerged through deductions and inductions as interns and principals worked together to find solutions. The analysis of data indicated that the interns’

reflections exemplified Nonoka and Takeuchi's proposed categories of tacit knowledge: metaphor and analogy; shared individual personal knowledge; and ambiguity and redundancy. The study also found that the internship experience promoted informal learning consistent with incidental learning.

*Metaphor and analogy*

Nonoka and Takeuchi (1995) explain that to express the inexpressible, heavy reliance is placed on figurative language and symbolism. It is a way for individuals grounded in different contexts and with different experiences to understand something figuratively through the use of imagination and symbols. Metaphors explain or interpret reality. Relevant analogies enable new ideas to be assimilated (Hirsch, 1997). The analysis of data revealed that the given situations elicited the use of metaphors or figurative language. Sometimes it was effective to answer a question with a question. These metaphors and questions encouraged the interns to probe personal understanding and answers, thus, creating their own knowledge. Questions like "what do you think?" or "is there another way to do this?" in response to interns' inquiries stimulated their thinking.

Metaphors were used to communicate with the interns. In a discussion on the importance of professional development, a principal was reported to have exclaimed, "If you do not feed your teacher's, they will eat the children!" Another intern explained that when she was surprised by the significant improvement in achievement tests by the English Language Learners, her principal reminded her to:

Always question my assumptions. I found this reminder so helpful and thought provoking. It is always important to question ourselves why we think the way we do and make the decisions we make and how it will impact learning. Making assumptions that we are doing the right thing and that others around us agree, I have learned, is simply naïve.

An intern who was involved in leading the school improvement team requested help from the principal on ways to develop a vision for a school. The principal responded by asking, "what do you hope your legacy will be when you walk out of a school?" Based on this question, the intern observed:

This is some thing that continues to resonate with me-leaving a legacy. I am thinking about it now a great deal. I wonder what legacy I am leaving behind as a teacher. One must not make the assumption that there will be a legacy behind as you leave, you must create your legacy and try to work towards it.

Another intern learned that "a vision is a working road map used to guide instruction." The intern indicated a much clearer understanding of the process of visioning from this analogy.

Other analogies that were included in the reflections were, "compare your internship experience with the first year as a parent. The range of emotions explored in both experiences were similar, . . . both roles hold such importance. Just as it is important to strive to be a good parent, so is administration." "If you make decisions based on what is best for children, you will be able to sleep at night." In talking about the development of teams, this principal advised the intern that "basic situations lead to trust building before tough situations" and "to develop a cadre of foot soldiers" and to be "firm, friendly and fair." And in explaining how to bring about change in a school culture,

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this principal said “know when to play and when to hold your cards”. These are insights that may not typically be learned in the classroom.

*Shared individual personal knowledge*

A powerful way to disseminate and acquire tacit knowledge is to share thoughts and feelings. Not only is the attention to thoughts and feelings helpful to the development of relationships, but it is also an excellent way to demonstrate the mentors' and the interns' specific knowledge. Knowledge can be amplified or deepened through dialogue, discussion, experience sharing, and observation. Increasingly, leaders are telling stories about their experiences. According to Lunenburg and Ornstein (2004), most stories make a point about leadership that would otherwise be difficult to convey through traditional methods. The stories reflect the belief that there is much to learn from others' experiences, and they allow us to see the connections between theoretical and human sides of leadership.

This study found that sharing stories provided opportunities to get to know leaders and staff on an emotional as well as intellectual level. Sharing personal knowledge was exemplified through discussions with mentors. One intern wrote:

Through discussions with my principal and listening to his stories, I found that instructional leaders have a passion for kids, a core philosophy, and a set of moral standards that they live by. This realization has sparked the following question within me, “do I have this passion, core beliefs, and moral standards to be an instructional leader?”

Another intern explained, after listening to the principal speak about an encounter with a teacher:

The largest lesson I learned from my principal talking about his experience, is that there will always be the details and minor issues, but as long as you maintain that passion and hold true to your core beliefs and moral standards consistently with every decision made, the teachers, the staff, students, parents and community will understand. When a leader is passionate, the people are willing to be led by him and work hard for him.

And one intern claimed:

I not only enjoyed but learned a lot from the insights of my principal ranging from his experience with new construction and community growth to school board politics, course offerings and test scores.

Becoming involved with the gathering and analysis of data for school improvement had profound impacts on the development of personal beliefs. The principals let the interns know the power of data by sharing the processes of data analysis and letting them discover their own conclusions and decisions on ways the information would be used, thus creating their own knowledge. The impact of the data analysis process was emphasized in this intern's reflection:

I was amazed at the amount of work that went into school improvement, staff development and coordination of efforts, and this is yet another aspect of a principals' job that few teachers see. I do not know how the administrators get it all done.



*Ambiguity and redundancy*

Ambiguity can be a source of new sense of direction, alternate meaning or a fresh way of thinking (Nonoka and Takeuchi, 1995). Redundancy helps create a common cognitive ground and facilitates the transfer of tacit knowledge. The logic of redundancy in an organization is shown by overlapping processes in which different divisions work together towards a common vision.

The internship program enabled the participants to work across program areas in the school, which improved their understanding of the different elements and their functions within the school. Working and providing leadership in various committees provided redundancy in the repetitiousness of dealing with aspects of school visions and missions, but enhanced the internalization of the concepts while defraying the ambiguities. One intern reported that vision and mission were no longer “things” to be hung on the wall. “I feel that vision has become an action. It is the verb that creates the expectations of the school community and explains why we are all here.” Another intern wrote:

... being in many committees enabled me to connect the dots. I have been given excellent models of group management and dynamics.

Ambiguity may be seen in this intern from the experience of leading a literacy committee:

I had to set agendas and lead our literacy team somewhat where I did not have a clear idea of our ultimate goal or the destination to which I was leading them. It forced me to step outside my comfort zone a bit and stretch my abilities so that I could be an effective leader of the group. I constructed a body of knowledge as I went along. While I began this project thinking it would take a curricular focus, I came to realize that more than anything it involved problem-solving that required an awareness of our building, and local, as well as state politics.

Redundancy was exemplified in working and leading across programs in the school. This experience brought together the various aspects of school administration. The interns indicated that an administrator’s job is much more time consuming, more subtle, and more political than many teachers assume because of the redundancy. Examples from the reflections explaining redundancy included:

The internship provided me with an excellent opportunity to walk in both worlds – teaching and administration. The breadth and depth of my experience has been extensive and I feel that I have gained new skills, new perspectives, and have a sound sense of demands of an administrative position.

In the beginning I thought the projects were busy work, but I soon realized that the bulk of these activities with other departments were far from mundane; they required me to stretch, grow, develop skills and go well beyond the comfort zone I was accustomed to as a teacher.

The experience of being on the teachers union and then serving on the administrative team was both exiting and eye opening seeing how political our children’s education is. I have since become very empathetic towards my administrators.

Knowing that the success rate of school referenda in the state is 20%, I watched every move of my principal to learn how he involved the community. He was visible and made it known to the community that local control of school was most important. The community passed the referendum because they believed they were in control. It has been a learning experience





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watching how my principal handles and prioritizes day to day pressures from both inside and outside of the school building. I have seen him promote, defuse, challenge, compliment, influence and maintain calm in every situation.

These reflections and the concept of redundancy are supported by Gardner's (2004) claims that people are more inclined to change when they can draw on available resources that can sustain the change or when they can realize the rewards.

### *Incidental learning*

This is learning that is unplanned and occurs as a result of the process of participation in the "everydayness" of human experience (Merriam and Brockett, 1997). When incidental learning occurs, it is a surprise – a byproduct of other activity. The learner discovers something while in the process of doing something else. Incidental learning is embedded in the learner's actions and includes learning from mistakes, learning through networking, learning from the unsystematic process of trial and error, or learning from a series of interpersonal experiences (Marsick and Watkins, 2001). However, in their work, Marsick and Watkins (2001) emphasized three conditions that may enhance incidental learning:

- (1) critical reflection to surface tacit knowledge and belief;
- (2) stimulation of proactivity on the part of the learner to actively identify options and to learn new skills to implement those options or solutions; and
- (3) creativity to encourage a wider range of options.

Marsick and Volpe (1999) concluded that informal learning, which includes incidental learning, can be characterized as: integrated with daily routines, triggered by an internal or external jolt, not highly conscious, haphazard and influenced by chance, an inductive process of reflection and action, and linked to learning of others (Marsick and Volpe, 1999, p. 5).

In the context of everyday experience in a school building, the low stakes environment provided a learning site that assisted in empowering the interns in the process of decision-making and taking action. The empowerment was exemplified in their reflections about critical issues arising from daily experiences. An intern creating an AP (Advanced Placement) History class found out that one additional curriculum offering disrupted current course offerings and had severe implications for teachers' jobs. This incident led to the appreciation of the "big picture". Another intern who was working with community agencies on how to help poor students realized that she "had been operating on the assumption that schools were in the fray alone, not understanding that there was a community support network that could assist schools, if only the schools would know to reach out and contact them." This discovery led her to write a proposal detailing ways in which schools could better take advantage of partnerships with local agencies. Another intern working with community colleges around the school discovered that students had double placements because of the lack of coordination between schools and community colleges. She developed a procedural process whereby colleges and schools worked together to avoid duplication of work and materials and increased the general efficiency of the placement process.

### **Caveat**

The findings of this research should be interpreted with the understanding that not all tacit knowledge is useful. This study focused on the positives. Certainly, some interns had experiences in which the tacit knowledge was not worth emulating. Hopefully, the interns have the capacity to decipher and choose what is best for their own leadership skills.

### **Conclusion**

This study concluded that the opportunities for interaction and sharing during internship were built on their natural eagerness for learning from the spontaneous performance-oriented behaviors of experienced school leaders. The study also concluded that the organizational context produced different local needs, which in turn, led to different opportunities and priorities for learning. This contextual knowledge moved the interns from learning about school leadership to participating in the intricacies of school leadership. The experiences were context specific and were mostly made explicit to the intern through observation, participation, and conversations with the school leader. Internship experiences enabled students to create their own knowledge (actions, decisions, programs) based on the principal's tacit knowledge. The interns were also exposed to the complexities and simplicities of school administration (the big picture) that were not explicit in their university courses. As described by these interns "when you deal with people, there are situational qualities that cannot be written about. Yet issues have to be addressed and handled, that is where I learned the most," and, "text cannot describe the passion for the profession that was in Andrew High School principal's eyes as he explained the process of change to me. You need to see it to learn from it." One student reiterated, "My internship experience has been the most significant segment of my educational leadership program at Maxmillion University".

This study suggested that interns should expand their own awareness of learning opportunities posed by life experiences and gain insight into their leadership preferences, while school leaders should help the interns identify contextual conditions that can help or hinder effective leadership. Universities should articulate the relationships between explicit and tacit knowledge and the extent to which tacit knowledge is desirable within the programs or what it would account for in the expected learning outcomes. The significance of this study may be summarized by Gardner (2004) in his writing about forces of change in which it was concluded that well-constructed experiences "will help bring about the discovery of a more powerful concept, a more compelling story, a more robust theory, a more effective practice, and-in the end-a superior mental representation" (Gardner, 2004, p. 59). The internship provided aspiring leaders and school leaders an opportunity to build their capacity for leadership from both tacit and explicit knowledge bases.

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